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PATENT ABSTRACTS OF JAPAN(21) Application number: **11159777**(51) Intl. Cl.: **H01L 23/28** H01L 21/56 H01L 23/12(22) Application date: **07.06.99**

(30) Priority:	(71) Applicant: NEC CORP
(43) Date of application publication: 15.12.00	(72) Inventor: KATO CHIKAYUKI
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(54) CIRCUIT DEVICE AND MANUFACTURE THEREOF☒ Abstract Drawing

(57) Abstract:

PROBLEM TO BE SOLVED: To improve productivity and strength of a BGA(ball-grid-array) package, where a flip chip is mounted on an interposer substrate.

SOLUTION: The gap between the lower surface of a flip chip 2 and the upper surface of an interposer substrate 3 is filled with a single mold resin 101, which is filled with the gap between the upper surface of the interposer substrate 3 and the lower surface of a heat spreader 11 as well. The single mold resin 101 is made to contact with a large area at each part for improved joint strength, while it acts as both an underfill resin and a stiffener for reduced manufacturing processes and components.

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